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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/672,962

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EXAMINER

GUHARAY, KARABI

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/672,962	Applicant(s) YAMADA ET AL.	
	Examiner Karabi Guharay	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment, filed on 12/27/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 6 is/are rejected.
- 7) ☒ Claim(s) 2 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/14/05</u> . | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

Amendment, filed on 12/27/2005, has been considered and entered.

Amendments of claims overcome the objections to the claims 1-5.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 & 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Xu et al. (US 6326224).

Regarding claims 1 & 4, Xu et al. discloses a light emitting display unit (30 of Fig 2) comprising a light emitting layer (36, 37) between a first electrode (35) and second electrode (38), a resonator structure (32, 34, lines 40-55 of column 3) resonating light generated in the light-emitting layer between a first end portion and a second end portion (see Fig 2), wherein an optical distance L_1 between the first end portion and a maximum light-emitting position of the light-emitting layer (41) satisfies

Mathematical Formula 1,

$$L_1 = tL_1 + a_1$$

$$(2tL_1)/\lambda = -\Phi/(2\pi) + m_1,$$

where tL_1 represents a theoretical optical distance between the first end portion and the maximum light-emitting position, a_1 represents a correction amount based upon a light-emitting distribution in the light-emitting layer, λ represents a peak wavelength of

Art Unit: 2879

the spectrum of light desired to be extracted, Φ represents a phase shift of reflected light generated in the first end portion, and m_1 is 0 or an integer, though it is not explicitly mentioned, first equation of the mathematical formula 1 is satisfied since effective optical distance L_1 will always be sum of theoretical optical distance and the correction term, further since micro-cavity 32 resonates it will satisfy the second equation in mathematical formula 1, further Xu et al. discloses an optical distance L_2 between the second end portion and the maximum light-emitting layer (see Fig 2) satisfy Mathematical Formula 2

$$L_2 = tL_2 + a_2$$

$$(2tL_2)/\lambda = -\Phi/(2\pi) + m_2,$$

where tL_2 represents a theoretical optical distance between the second end portion and the maximum light-emitting position, a_2 represents a correction amount based upon a light-emitting distribution in the light-emitting layer, λ represents a peak wavelength of the spectrum of light desired to be extracted, Φ represents a phase shift of reflected light generated in the second end portion, and m_2 is 0 or an integer, similarly, though it is not explicitly mentioned, first equation of the mathematical formula 2 is satisfied since effective optical distance L_2 will always be sum of theoretical optical distance and correction, further since micro-cavity 34 resonates it will satisfy the second equation in mathematical formula 2, further Xu et al. discloses that in case of both micro-cavity (32, 34) wave length λ of the resonant structure is same (lines 26-36 of column 2).

Regarding claims 3 & 6, Xu et al. disclose that the light emitting layer is an organic layer (see abstract).

Allowable Subject Matter

Claims 2 & 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 2 & 5, the prior art of record neither shows nor suggest a display device comprising the limitations of claims 2 & 5, together with other cited limitations.

Response to Arguments

Applicant's arguments filed 12/27/2005 have been fully considered but they are not persuasive.

Applicant contends that prior art of Xu has plurality of micro-cavities in tandem, where L1 is the optical distance between the first end portion and the second end portion of the first micro-cavity and L2 is the distance between first and second distance of second micro-cavity.

However, applicant in claims 1 & 4 claim a display device having a resonating structure having first end portion and second end portion, in prior art first end portion is 35 of fig 2 and second end is 45 of Fig 2 , between which resonating structure (32, 34) is located. Claim language does not call for only one resonating structure.

Further Layer 41 of the display structure is the position of the maximum light output of the organic diode (lines 32-37 of column 3), thus prior art of Xu having two optical lengths L1 & L2 satisfies the claim limitations.

Since claim language only calls for optical distance L1 between first end portion and the maximum light output end and the distance L2 from second end portion to the maximum light output portion, having the claimed mathematical relations, prior art satisfies the limitations of claim 1 & 4. Question of two micro-cavities is irrelevant since claim does not distinguish between one or two microcavity.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (571) 272-2452. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

Art Unit: 2879

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Karabi Guharay
Primary Examiner
Art Unit 2879